

REMARKS

Claims 1-22 are pending in the application. Claims 1-4 and 7-14 are under examination. Claims 5, 6 and 15-22 are withdrawn from consideration as being drawn to non-elected groups and are hereby canceled.

Restriction/Election

Claims 5, 6 and 15-22 have been withdrawn from consideration as being drawn to non-elected groups and are hereby canceled, without prejudice to further prosecution of the canceled subject matter in a continuation or divisional application.

Claim Objections

Claims 3, 8 and 13 were objected to for a minor informality. Appropriate correction has been made, as suggested by the Examiner.

Double Patenting

Claims 1-4 and 7-14 were provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-4 and 11-18 of copending application No. 10/235,994. The cited application is commonly assigned and is a continuation-in-part of the present application. Applicant proposes to amend or cancel the noted claims in the cited application to address this rejection if the issue is not resolved prior to the conclusion of this prosecution or the issuance of a patent on that application.

Rejections under 35 U.S.C. §101

Claim 7-14 are rejected under 35 U.S.C. §101 as allegedly directed to non-statutory subject matter. This rejection is respectfully traversed.

Claim 7 is directed to a computer program product comprising a machine readable medium on which is provided program instructions for analyzing gene expression [emphasis added]. The program instructions for analyzing gene expression invoke several stages that are recited in the claim to achieve the practical result of identifying a subset of one or more genes of unknown function which have similar expression patterns to those of one or more disease-specific genes. Thus, the claim defines “a computer-readable medium encoded with a computer program,” and is thus “a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program’s functionality to be realized, and is thus statutory.” (MPEP 2106 IV.B.1.a) Moreover, the claimed invention is directed to a practical application of the program instructions (computer program) (MPEP 2106 IV.B.2.b.ii), namely analyzing gene expression, in particular, to achieve the practical result of identifying a subset of one or more genes of unknown function which have similar expression patterns to those of one or more disease-specific genes.

Claim 11 is directed to a computing device comprising a memory device configured to store at least temporarily program instructions for analyzing gene expression [emphasis added]. The program instructions for analyzing gene expression invoke several stages that are recited in the claim to achieve the practical result of identifying a subset of the one or more genes of unknown function which have similar expression patterns to those of the one or more disease-specific genes. Thus, the claim defines a “computer program” that “is being claimed as part of an otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim.” (MPEP 2106 IV.B.1.a) Moreover, the claimed invention is directed to a practical application of the program instructions (computer program) (MPEP 2106 IV.B.2.b.ii), namely analyzing gene expression, in particular, to achieve the practical result of identifying a subset of one or more genes of unknown function which have similar expression patterns to those of one or more disease-specific genes.

Accordingly, it is respectfully submitted that independent claims 7 and 11, and their respective dependent claims 8-10 and 12-14, are directed to statutory subject matter and withdrawal of the rejections under 35 U.S.C. §101 is respectfully requested.

Rejections under 35 U.S.C. §112(2)

Claims 1-4 and 7-14 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite. In dependent claims 1, 7 and 11 have been amended to clarify that which is intended to be claimed. Accordingly, withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. §103

Claims 1-4 and 7-14 were rejected under 35 U.S.C. 103(a) as being unpatentable over Walker et al., (“Walker”) in view of US Patent No. 6,424,921 to Gupta et al. (“Gupta”) and Friedman et al. (“Friedman”).

The present invention generally relates to methods, media and systems for facilitating the identification of disease associated genes. The presently claimed methods, media and systems involve effective analysis of dual channel DNA microarray images.

As noted in the Background section of the present application, Walker discusses a method for identifying genes associated with disease wherein the expression of genes in multiple cDNA libraries was examined. The method described therein allows one to perform a coexpression analysis on clone count data from sequencing. The statistical analysis is performed using a categorical method (i.e., present or absent in clone count data from a library) rather than analyzing expression as a continuous variable using linear or rank correlation. Walker does not relate to the analysis of dual channel DNA microarray images.

Gupta issued on July 23, 2002 from US Patent Application No. 09/613,167 filed July 10, 2000. The present application was filed November 1, 2001, thus after the filing date of the Gupta application but before the issuance of the Gupta patent. The present application and the

Gupta application and patent were commonly owned at the time of the invention(s) that is the subject of the present application. Accordingly, it is respectfully submitted that, pursuant to the provisions of 35 U.S.C. §103(c), in particular with reference to art otherwise qualifying as a reference under 35 U.S.C. §102(e), Gupta is unavailable as a reference against the present application. Thus, without addressing the merits of the rejection, it is respectfully requested the Examiner withdraw the rejection under 35 U.S.C. §103(a) to the extent that it relies upon the citation of Gupta.

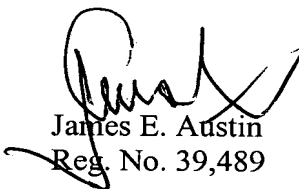
Friedman is directed to the application of Baysain networks to describing interactions between genes. This is a different category of analysis from that of the present invention and does not advance the disclosure of Walker with regard to the analysis of dual channel DNA microarray images.

Accordingly, it is respectfully submitted that claims 1-4 and 7-14 are patentable over the available cited art and it is respectfully submitted that the rejections under §103(a) be withdrawn.

Conclusion

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below. If any further fees are due in connection with the filing of this amendment, the Commissioner is authorized to charge such fees to Deposit Account 500388 (Order No. ICYTP012).

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP



James E. Austin
Reg. No. 39,489

P.O. Box 778
Berkeley, CA 94704-0778
510-843-6200